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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/714,895	11/18/2003	Takami Iwafuji	8023-1023	2813
466	7590	11/17/2005	EXAMINER	
YOUNG & THOMPSON 745 SOUTH 23RD STREET 2ND FLOOR ARLINGTON, VA 22202			NGUYEN, TUAN N	
			ART UNIT	PAPER NUMBER
			2828	

DATE MAILED: 11/17/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>		<b>Applicant(s)</b>	
	10/714,895		IWA FUJI, TAKAMI	
	<b>Examiner</b>		<b>Art Unit</b>	
	Tuan N. Nguyen		2828	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1) ☒ Responsive to communication(s) filed on 18 November 2003.

2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4) ☒ Claim(s) 1-18 is/are pending in the application.

4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.

5) ☒ Claim(s) 13-18 is/are allowed.

6) ☒ Claim(s) 1-11 is/are rejected.

7) ☒ Claim(s) 12 is/are objected to.

8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

9) ☐ The specification is objected to by the Examiner.

10) ☒ The drawing(s) filed on 18 November 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) ☒ All    b) ☐ Some \*    c) ☐ None of:

1. ☒ Certified copies of the priority documents have been received.

2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.

3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 11/18/2003.

4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

***Claim Rejections - 35 USC § 102***

1. The following is a quotation of 35 U.S.C. 102(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

2. Claims 1-6, 9, 10 are rejected under 35 U.S.C. 102(a) as being unpatentable over Funada et al. (US 2004/0037334).

With respect to claims 1,5 Funada et al. '334 discloses and shows a semiconductor chip unit comprising an electrode pattern and ground electrode (Fig 1: 6, 7, 10)(Col 3: Section [0061-0062]), with semiconductor chip is die-bonded to ground electrode and high frequency signal transmitted from the electrode and ground (Fig 1: 7,8,10)(section [0060-0067]), a spherical collimator lens for collimating the laser beam from the laser diode chip (Fig 1: 19, 6), wherein each of the electrode pattern/ ground electrode/ semiconductor laser/ and the collimator lens are integrated in a non-conductive heat sink or submount to form a unit (section [0051]).

With respect to claims 2-4 (Fig 1: 19, 18) (Section [0051-0052] ) shows and discloses the collimate lens support by groove or hole such that the semiconductor laser chip is incident approximate point of the collimator lens, and the groove or hole is on a way of traveling of the laser beam.

With respect to claim 6 (Section [0050-0051]) discloses the submount or heatsink is make of good heat conductance such as SiC, C-BN, diamond or the like, that have higher heat conductivity than Si material.

With respect to claims 9,10, (Fig 1: 6, 6A, 80, 12) shows the semiconductor laser having output to front and back end to the photodiode, (Fig 1: 6, 7, 10) shows the electrode pattern and ground electrode are in coplanar line.

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
  2. Ascertaining the differences between the prior art and the claims at issue.
  3. Resolving the level of ordinary skill in the pertinent art.
  4. Considering objective evidence present in the application indicating obviousness or non-obviousness.
4. Claims 7-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Funada et al. (US 2004/0037334).

With respect to claims 7, 8, the claim further requires the heat sink formed of aluminum nitride and bonding is formed on indium phosphate. (Fig 14a/b: 18,19) shows an exposed lens surface of the collimator lens is fixed on a portion of the heat and heat sink/submount is formed of aluminum nitride AlN (Section [0051]). It has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a

matter of obvious design choice, in this case the bonding is indium phosphate or the like, to bond or increase heat transfer between the elements to increase the life of the laser. In re Aller, 105 USPQ 233.

With respect to claim 11, the claim further require that the ground-electrodes are formed on opposing end surfaces of the heat sink respectively, and connected through a hole formed in the heat sink. It has been held that rearranging parts of an invention involves only routine skill in the art, in this case the ground electrodes are formed on opposing end for the purpose of keeping the component compact on the same device. In re Japikse, 86 USPQ 70.

### **REASON FOR ALLOWANCE**

#### ***Allowable Subject Matter***

5. The following is an examiner's statement of reasons for allowance, with respect to claim 13 the references of the record fail to teach or suggest:

#### **Claim 13:**

A semiconductor laser chip module comprises a semiconductor laser chip unit, having a wavelength detection means passing through a collimator lens, a temperature control means of the laser incorporated in a package, wherein the semiconductor chip unit comprises an electrode pattern and a ground electrode, where the laser diode is die-bonded to the ground electrode, and a collimator lens for collimating the semiconductor laser beam excited by the electrode pattern and ground, wherein the semiconductor chip/electrode pattern/ ground electrode/ and collimator lens is integrated in a nonconductive heat sink to form a unit.

#### ***Allowable Subject Matter***

6. Claim 12 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The references of the record fail to teach or suggest:

**Claim 12:**

Wherein the heat sink includes a resistance as an end of the high-frequency signal transmitted through the electrode pattern and ground electrode, and a condenser for protecting the semiconductor laser chip from a surge current of a bias current.

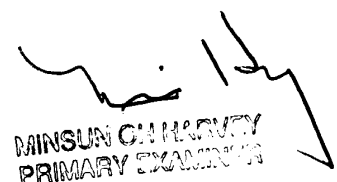
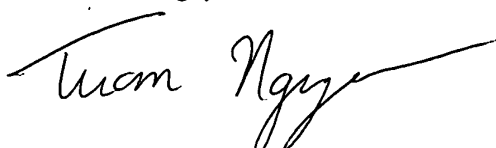
***Communication Information***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tuan N Nguyen whose telephone number is (571) 272-1948. The examiner can normally be reached on M-F: 7:30 - 4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Harvey Minsun can be reached on (571) 272-1835. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Tuan N. Nguyen



MIN SUN CH. HARVEY  
PRIMARY EXAMINER